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*Price One Shilling.*

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# CHOLERA MORBUS.

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A SHORT AND FAITHFUL ACCOUNT  
OF THE  
HISTORY, PROGRESS, CAUSES, SYMPTOMS,  
AND TREATMENT,

OF THE  
**Indian and Russian Cholera,**

TAKEN FROM  
VARIOUS AUTHENTIC SOURCES ;

WITH  
*CASES AS RELATED BY PRACTITIONERS IN INDIA ;*

AND ALSO,  
THE INTERESTING CASE LATELY GIVEN TO THE PUBLIC  
BY

DR. HAMILTON ROE, of the Westminster Hospital.

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“ ——— œquo pulsat pede pauperum tabernas,  
Regumque turres.” HOR.

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By JOHN AUSTIN, SURGEON,  
*Late of Penmaen, Glamorganshire.*

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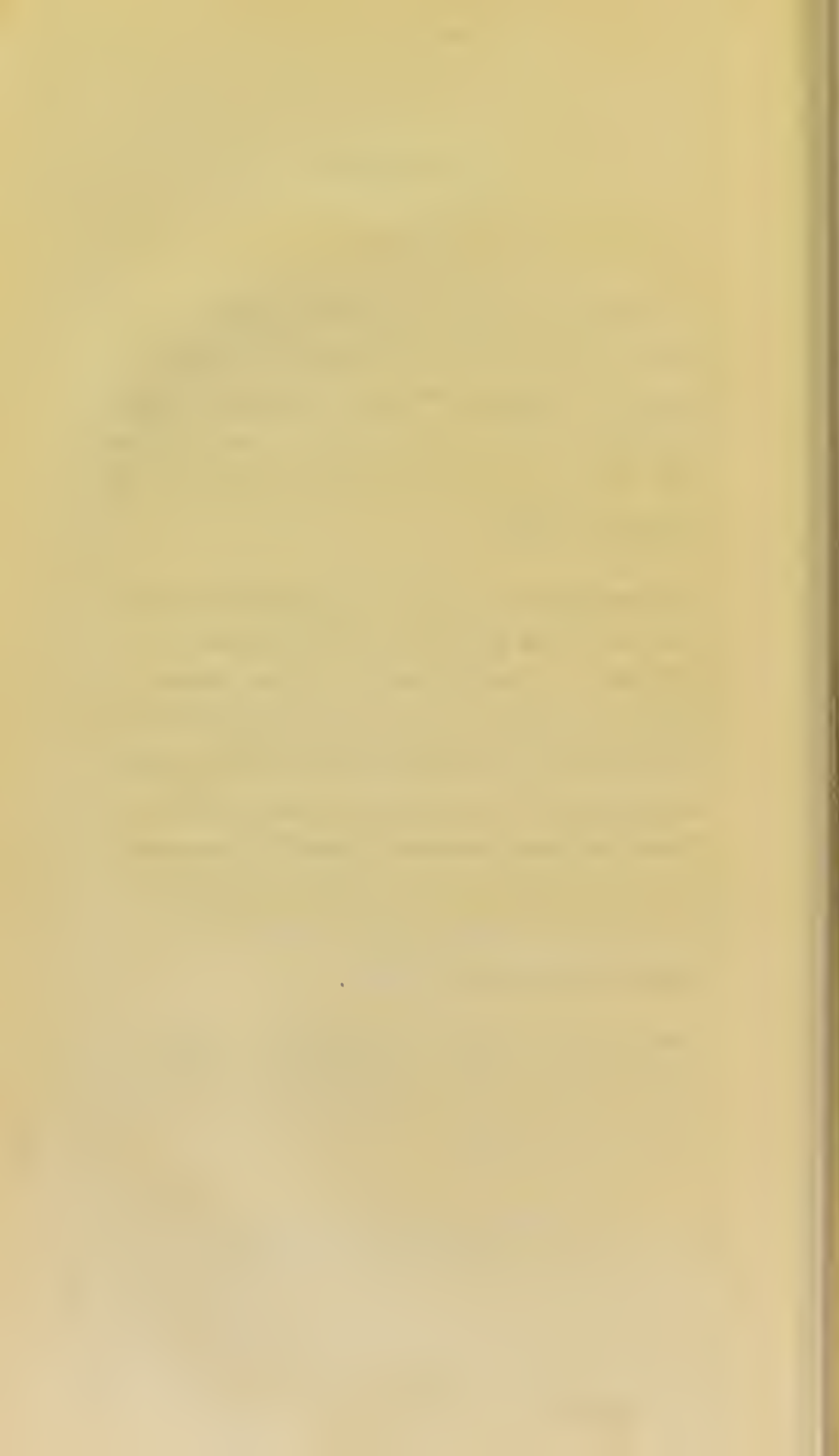
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It cannot be expected that the public, however anxious, and desirous of information respecting the history and treatment of Cholera Morbus, will take the trouble, or go to the expence, of perusing all the works that have issued, and are daily issuing, from the press, on the subject.

The author of this little work considers he is rendering no small service in condensing into a very cheap form, a faithful history of the progress of Cholera, its symptoms, causes, and treatment, taken from some of the most judicious and accurate accounts already published. And in such a time of public excitement and alarm, he trusts he shall be excused from borrowing from the labours of others, especially if it has a tendency to allay public anxiety, or in any measure fortify the public mind.

Should more extensive information be sought, no works are more worthy of perusal than those referred to in the ensuing pages.

*London, July 1831.*



# CHOLERA MORBUS,

&c.

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THE alarm excited by the accounts published of late, in the daily papers, respecting the terrible disease, which, for the last twelve or fourteen years, has been ravaging so great a portion of the globe, can only be allayed, it is conceived, by placing before the public a short account of its history, of its real nature and symptoms, (divested as much as possible of technicalities,) and pointing out the most reasonable mode of prevention, or rather precautions necessary to be observed; and, in case of attack, the mode of treatment experience has proved the most judicious. And this appears to be more particularly called for at the present period for two reasons.

First, because most of the accounts hitherto published have been so contradictory, especially as to the treatment to be pursued.\*

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\* For instance, one day it was said that an eminent practitioner in India, was relying very much upon Magnesia; the following day again, another practitioner asserted he had found a specific in Nitrous Acid (Aqua Fortis); so that each day the newspapers were announcing some fresh remedy to the public, till they were cautioned as to its impropriety, and no further remedial communications were inserted.

And secondly, to remind the public, that at this season of the year, Bilious attacks are not only prevalent, but frequently very severe, and though by the faculty usually termed Cholera Morbus, yet it is a very different disorder from the Indian or Russian Cholera, as will be pointed out in the ensuing pages, and is seldom fatal when judiciously managed.

In order to effect the desirable objects referred to, it must be premised the author has availed himself of all the accounts at different times published by gentlemen who have actually seen and treated the disease, both in India and elsewhere; and has selected such statements of its progress, symptoms, and treatment, as appear to him, having himself had upwards of thirty years professional experience, the most authentic as to the history, the most faithful as to symptoms, and the most judicious as to precautions and treatment. And he trusts, it *will* have the effect of doing away one of the most predisposing causes of the susceptibility to attack of most epidemic diseases, viz. Fear; and enable us, should we be called upon to sustain an attack from the Foe, to shew, with humble submission to the will of unerring Providence, an undaunted front, and calmly to use the means experience points out as the most likely to subdue him; under the conviction, that the superior advantages of our favored country, both as it regards our variable climate, (herein our friend,) the superior cleanliness and ventilation of our streets and houses, the quality and wholesomeness of our food, our far greater domestic comforts, and the

greater professional skill and science which will be brought into action, will oppose such decided obstacles to his progress and fatality, that it may reasonably be expected a smaller number of victims will fall a sacrifice here, than in any other country he has been permitted to ravage.

For it must be observed most accounts agree that “ a great share of the mortality abroad, may be fairly “ attributed to partial or total want of medical assist- “ anec :” “ When proper remedial means could be “ employed at the earlier period of attack, the result was “ highly gratifying and creditable to the profession :” and again, “ The great mortality is accounted for, by “ the severe distress it occasioned among the labouring “ poor, for want of employment, and the consternation, “ dread, and terror it spread everywhere.” But it was especially noticed at Moscow, that “ those who were the “ least timid, and pursued their outdoor avocations as “ usual, generally escaped.” “ With rare exceptions, “ the physicians, nurses, and even the soldiers who “ conveyed the dead to the place of interment, continued “ in perfect health ; and in many cases, individuals in “ attendance upon sick relatives, from the first at- “ tack, till the moment of dissolution, escaped all “ infection.”

To give a short sketch of its history. It is generally supposed that the Indian Cholera is a new disease of a specific nature, never heard of before its sudden appearance about fourteen years ago ; but this is by no means correct, as though it does not appear to have been ever



so extensively epidemical in India before the year 1817, yet at certain seasons of the year, like the bilious cholera of this country, it usually affected a small number of persons in various parts. Indeed, in an old work published in 1642, "*De Medicina Indorum*," we find it noticed; and in the Transactions of the Board of Health of Madras, 1787, there is a complete account of it, as it prevailed at Arcot in 1770, in 1771 at Gangan, and in 1783 in the valley of Ambore. In 1775, it broke out in the Mauritius, but previous to the present epidemic, its ravages have rarely been extended over large tracts of country.

It was at Jessore, a place 100 miles N. E. of Calcutta, the present epidemic Cholera first made its appearance, in the month of August 1817, with symptoms of extraordinary malignity. In less than a month, its ravages spreading along the course of the river, it reached Calcutta, first attacking the native, and early in September, the European population. By the month of May 1818, it had traversed a space of 450 square miles, its devastation unprecedented. At Benares, 15000 persons perished in two months, and some accounts state, that in the district of Gorrahpore, 30,000 died in a month. Certain it is, that early in November it reached the Grand Army, under the Marquis of Hastings, consisting of near 100,000 troops and followers, and in less than a fortnight, 10,000 had perished. Before the 30th, "the mortality became so "appalling, the stoutest hearts failed: its attacks "were indiscriminate:" The natives attempted to es-

cape by flight, but they were deceived, and the fields and highways for miles round were covered with their bodies. The Marquis was at length obliged to move his ground, and by marching fifty miles in a south-east direction, he pitched in a high and elevated soil, and it rapidly declined. It now crossed the Decean, and ravaging towns and villages, leaving appalling proofs of its malignity, it arrived at Bombay just twelve months after its appearance in Calcutta. It spread along the coast of Malabar and Coromandel, and reached Madras in October. It then went over sea, to Ceylon, and broke out in Candia in December 1818, with even more violence than on the continent. By the middle of September 1819, the Mauritius was included; at Port Louis 50 died daily, but the mortality was not so great in the Interior. In December it arrived at Bourbon. During the last six months of 1819, it passed south-east, and invaded the Indo-Chinese Peninsula. Siam greatly suffered: 40,000 perished at Bantok. It passed on to Malacca and Singapore, visited the north coast of Java, and was very violent in the interior of that Island. In 1820, Cochin China and Tonquin suffered, and Canton was attacked in December. At Pekin, in 1821 and 2, the loss of life was tremendous.

In July 1821, travelling north-west from Bombay, it reached Muscat in Arabia, and destroyed 60,000; numbers surviving the attack very few hours, some not one hour. One town after another was visited in the Persian Gulf; at Bassora 18,000 perished, 14,000 in a fortnight. It then ascended the Euphrates, traversing

Mesopotamia, into Syria, and the Tigris, from Bassora to Bagdad. On the other hand it reached Persia; at the city of Shiraz, 16,000 died the first few days out of a population of 40,000. Extending through Persia from north to south, several districts were visited. 7,000 died at Yezd, the caravans passing through that town from Shiraz, being prohibited from entering Ispahan, which escaped. In the spring of 1822, Mosul, Beri, Aentab, and Aleppo were infected. During September it spread north of Teheran throughout all Kurdistan and Tauris. In the spring and autumn of 1823, Diabekr and Antioch, and many towns along the Asiatic side of the Mediterranean were ravaged; and in August, Baku on the border of the Caspian Sea. In September it reached the Russian city of Astrachan, at the mouth of the Volga, but it was checked by the winter coming on, and did not return there again during the ensuing summer, though it did in many other places, where it had appeared to be checked by the cold of winter.

In 1822, it re-appeared at Java, and carried off 100,000. In 1823, after visiting Ternat, Celebes, and Banda, it first reached Amboyna, then committed great ravages in Timor. For a great length of time it continued in various parts of China, and after desolating several cities in Mongolia, it reached the frontiers of Siberia. Persia had several returns of it; and in 1829, Teheran, the royal residence, was seriously visited, but winter stopped it for the time. In June 1830, the provinces of Mazanderan and Shirvan on the south

shore were included, from whence it passed to Tauris, and destroyed 5,000. Crossing the Russian frontier, it passed rapidly into the interior, and in two provinces near 5,000 were attacked, of whom more than one-third died. In the spring of 1830, it broke out again at Tauris and Ghilan, and spreading along the western shore of the Caspian Sea, reached Lankarain, Soliam, Bakou, Dezbeu, and soon extended further. On the 8th of August it reached Tiflis, on that day three soldiers of the garrison were seized, and died within a few hours. It was rapidly propagated throughout the town, which, on the 13th was filled with alarm and confusion, so that every body fled and took refuge in isolated places; the bazaars, earavansaries, and all public places were shut up, and the population of Tiflis thus suddenly decreased from 30,000 to 8,000, by deaths and migration. The accounts from this place go on to state that the poverty of the inhabitants, the intense heat of the season, and, above all, the scarcity of medical practitioners, seem to have contributed towards the rapid propagation of the disease and its extraordinary mortality.

On the last day or two of July, it again attacked Astrachan, and it soon appeared that it was of a much more malignant and alarming nature than the Cholera of 1823. Some were cut off almost instantaneously, many in the course of two hours. Monday, August 9th, about mid-day, the Governor's son was seized with it, and expired before the close of the day. On the following



Saturday, the Governor, Nisson, himself, was carried off. During its progress, more than sixty officers, together with the admiral of the fleet, fell victims to it, and the number of the dead of all descriptions in the city alone, the population of which was about 40,000, is calculated at about 6000, besides between 1 and 2000 from the interior of Russia, who were passing the summer there, and fled to the towns and villages up the Volga, in the hopes of escaping it. But the greater part of the fugitives, who fell victims to it, met their fate on the Volga. Nearly 10,000, it is said, left the city in great confusion, and being ill-provided with food and other necessaries, were reduced to such indescribable hardships, on their passage up the river, that the Calmucks on its banks, would have no intercourse with them. It is said that one or more of the crews of these boats, perished entirely from the Cholera, and having none left to man them, were at last carried down the stream with the residue of the dead on board; and that in other cases, the ravages were dreadful.

From Astrachan, penetrating into the heart of the Russian Empire, it pursued the course of the Volga, carrying destruction among the Cossacks of the Don, and several districts were ravaged.

During the summer, the Tartars who frequent Moscow, predicted the approach of a pestiferous malady, which the inhabitants, relying upon the local advantages of their city, would not credit. Suddenly, the atmosphere was filled with dense masses of small green

flies,\* which in Asia are the forerunners of pestilence, and are called plague flies. The streets swarmed with them, and as soon as any quitted their houses, they were covered from head to foot. For a time no attention was paid to the circumstance, nor were any precautions used to prevent the introduction of Cholera, till intelligence was received it had broken out at Nisehin-Nowgorod. At the same time, a considerable number of fugitives arrived in Moseow, principally from Saratoff, and amongst them a student, whose parents, brothers, and sisters had fallen victims, and who went to lodge with a friend in the university. Quarantine regulations were now enforced, but it was too late, for Cholera broke out in the university, which was instantly elosed. Consternation now became universal, all who had the means fled, and it is said the panic became so great that, at first, even medical men were almost incapacitated by terror from paying due attention to the infected. It appears the numbers attacked did not exceed 6,000, but the inhabitants, generally, complained of lassitude, debility, indigestion, and inability to sleep, and these symptoms were attributed to atmospheric influence, not contagion from the prevailing disease. Thus it appears to have travelled from Astrachan, a distance of 900 miles, in

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\* The Augsburg Gazette, of the 5th instant, contains the opinion of Dr. Hahnemann, that the miasmas of Cholera proceed from very small insects, which fasten themselves to the hair of the head, the skin, and the clothes, and that the influence is of very fatal tendency. Rubbing the body with Camphor, he considers a specific.

little less than two months. It greatly declined during the winter, but in February it appeared among the Russian troops in Poland, and eases soon occurred at Warsaw, and in the Polish armies, though it does not appear to have occasioned great mortality among them. Dantzic and Riga have suffered, and there is no doubt it is still spreading; late accounts have announced its entrance into St. Petersburg, but from the excellent arrangements now adopted, of Quarantine and Boards of Health, it is hoped it may not reach our shores.

In closing this rapid historic sketch, it may not be amiss to observe, that from Bengal it travelled south to the Mauritius and the Island of Timor, near New Holland; east to Kuku-choton, a Chinese town situate east of Peking; north to the frontiers of Siberia and Astrakhan; and west to the city of Moscow; a portion of the globe, equal in extent to 70 degrees of latitude, and 100 degrees of longitude. Such then is the account of the extraordinary progress of this devastating scourge, by which it appears, neither mountains, rivers, or the ocean itself, could oppose its progress.

Of the numerous persons who have endeavoured to account for the origin and nature of the Indian Cholera, we are disposed to say they are wisest who assert that it is produced by "causes over which we have no control." Nevertheless, in pursuance of our plan, we will here state some of the most prominent opinions. Many suppose it originated from the great heat of the climate where it first appeared, but this opinion is entirely invalidated when we consider the variations of

temperature which accompanied its prevalence in Syria, Persia, and India; and that it is equally independent of the rainy seasons, is evident by its sudden appearance in different places during the driest weather. Neither could it be induced by the nature of the soil, or by marshy miasmata, because since it was first noticed on the banks of the Ganges, it has re-appeared and raged with violence in dry and elevated situations.

Dr. James Johnson asserts that, “he became acquainted with the disease in India, twenty-seven years ago, and that as Editor of a (widely circulated) Medical Journal, he has perused every publication that has emanated from the press on the subject, during these last twenty years, and consequently, has reflected much; and from all he has seen, read, and thought, he is perfectly convinced that the primary causes of this, as well as all other epidemics, spring from the bowels of the earth, and thus contaminate the atmosphere; and he considers this proved to a demonstration, by the disease having often travelled directly against the monsoon winds, which blow for months together in one uniform direction.”

And he adds, “but it is to be borne in mind, that although the primary morbid miasma emanates in the first instance from the earth, its operation and activity are greatly under the influence of atmospheric, and various other physical, as well as moral, causes afterwards. Thus, a certain change of temperature is almost essential to the development of the poison, and a strong predisposition must very gene-



“ rally, be first created by a host of physical and moral  
 “ agencies, as intemperance, poverty, uncleanness,  
 “ want of ventilation, unwholesome food, excessive  
 “ fatigue, and the various depressing passions.”

Another writer, who has seen much of the disease in India, observes, “ I enter into the views of those who  
 “ consider the most frequent exciting cause to consist  
 “ in vicissitudes of atmosphere, and that whatever  
 “ tends to debilitate the general system, predisposes  
 “ to the disease. The atmosphere between the tropics  
 “ is in a state of far less density than elsewhere in all  
 “ seasons, and the sudden changes of weather which  
 “ occur, operate most powerfully on the functions of  
 “ respiration, circulation, and digestion;” and this  
 opinion is corroborated by that of M. Keraudren, a distinguished member of the superior Council of Health, and Inspector-General of the French Marine, whose situation has consequently enabled him to have access to sources of peculiar and valuable information ; from which he has come to the conclusion, “ that  
 “ partial exposures to currents of cold air, the use of  
 “ indigestible or acrid aliments, excess of sexual inter-  
 “ course, exposure to night air, the consumption of  
 “ cold water, and the imprudent indulgence in the cold  
 “ bath, by exciting a primary spasm of the skin, may  
 “ cause a simultaneous affection of the digestive or-  
 “ gans,” and be quickly followed up by all the other symptoms constituting the disease.

As opinions are various with respect to the remote, so are they with regard to the proximate causes, or

those by which the alarming symptoms are immediately produced. The great official authority, Dr. Annesley, says, "a singular and sudden change of the circulating fluid is the proximate cause of Cholera." One of the latest theories, offered by "the best" practitioner in Calcutta, is that of a morbid secretion from the intestinal canal.

Mr. James Kennedy, who also witnessed the disease in India, and from whose excellent and well written account of it, we have extracted the history of its progress, and other observations, considers local excess of nervous energy the best and most rational way of accounting for the symptoms, and that this opinion is borne out by the pathology of the disease. The localities in which this excess is generated, appear primarily to be the nerves connected with the liver, stomach, and bowels; those of the limbs and other parts are probably secondarily affected, and the effects, he thinks, correspond with the cause. There is uneasiness at the pit of the stomach, and the face wears the anxious and shrunk expression common to severe abdominal affections. The canal, along which in health, the bile freely travels to the intestines, is closed by the constriction of spasm. These spasms soon extend to the stomach and bowels, and they, in consequence, are obliged to evacuate their contents, and hence the exhaustion which ensues.

Another Indian practitioner, who has lately transmitted an excellent paper to that valuable periodical, "The Lancet," and whose mode of treatment, with a

case, we shall presently refer to, says that, “after a  
 “most attentive survey of the numerous works which  
 “have of late years been published to elucidate the  
 “phenomena of Cholera, he can subscribe to none of  
 “the doctrines, however great the merit of their  
 “authors, which have been hitherto inculcated.” He  
 then gives his own, “A constriction of the ductus  
 “communis choledochus, occurring when the natural  
 “organs, particularly the liver, are loaded with blood,”  
 and he refers to the “*seat of the earliest spasm*, the  
 “paleness of the matters dejected in the first instance,  
 “and its bilious nature when the spasms subside, the  
 “vomiting and difficult respiration, from the approxi-  
 “mation of the stomach and diaphragm, the dark  
 “condition of the blood, and general spasms,” as  
 proofs of the correctness of his opinion.

M. Keraudren, above-mentioned, considers the first stage essentially nervous or spasmodic, and his dissections have proved the second to be inflammation of the mucous membrane of the stomach and small intestines; and it appears that his treatment, hereafter noticed, is guided by these opinions, and is very judicious: and as we incline to the opinion of spasm of the bile ducts being the immediate or exciting cause of all the subsequent distress, should it be our fortune to see the disease in its virulence, our first remedies would be of the antispasmodic class, with hot fomentations and frictions. Various other proximate, or immediate, causes have been assigned, but the two last named appearing to be the most rational, it is considered

needless to enumerate others, especially as the treatment indicated, and founded upon the opinion of the spastic state of the bile ducts appears most judicious, and successful, as we shall presently see.

The symptoms of Cholera, both as it appeared in India and Russia, have been very fully and accurately described: we shall here avail ourselves of such accounts of them as appear to be the result of the most careful observations. It seems to have been somewhat capricious in the selection of its victims; in some places, the infirm and debilitated having been its favorite subjects, and though in almost every place, the poor and ill-fed were amongst the first attacked, and with them also was the mortality greatest, yet the best state of health did not always ensure exemption. The attack was usually most insidious and sudden. Persons who may have felt perfectly well during the day, in the course of the night or early in the morning, are seized with a feeling of uneasiness, often indescribable, succeeded by sensations of heat in the region of the stomach, nausea, constant evacuations from the stomach and bowels of matter nearly colourless, or similar to water in which rice has been boiled; cramps of the muscles of fingers and toes, gradually ascending to the arms, legs and thighs, trunk and chest, producing intense suffering and rapid exhaustion. The changes which the pulse and skin undergo are very striking: at first the pulse is rapid, small, and weak; when the spasms are established, it becomes imperceptible, and for some time before death supervenes, no pulsation



can be detected. The inability to carry on the circulation in the superficial textures, allows the blood to accumulate and oppress the internal organs, and dissection finds the different viscera, especially the liver and lungs, gorged with thick dark coloured blood; the stomach containing a quantity of glairy fluid; the gall bladder distended with bile. The surface of the body is pale, chill, and clammy, and at length becomes quite cadaverous. The rapidity with which the symptoms of collapse, and exhaustion, supervene, constitutes the striking and characteristic part of the disease. This account of symptoms is illustrated by the following well detailed case, by Mr. Kennedy.

“ A European gentleman of middle age, of spare but muscular proportions, and who had arrived from England only a few months, had been spending the evening in the society of some friends, and, contrary to his general habits, had indulged rather freely in wine or spirituous beverage. The party separated about one o’clock; the distance being short, Mr. A— was carried home in a palanquin. Upon reaching his residence, he did not retire to his chamber directly, but sat out in the Veranda, “to cool himself.” In this state of exposure to the night air, he fell asleep, and slept soundly until awakened about an hour afterwards by his servant, who reminded him of the impropriety of sleeping there, and assisted him to bed. During the period of undressing, either from the disease not being perceptibly manifested, or from impaired sensibility, Mr. A— was not conscious of any

morbid affection. After slumbering a couple hours, he awoke suddenly with a start, complaining of mental anxiety, and a feeling of uneasiness at the region of the stomach, which he attributed to unpleasant dreams, and to the effects of the wine, but the anxiety increased, and the uneasiness changed into a feeling of burning heat. Ere the lapse of four hours, 'evacuation of the portentous fluid, like rice water, followed from his stomach and bowels, to which were soon superadded distressing cramp, affecting the muscles of the toes; the nature of the attack was now evident to the patient himself, though almost a stranger to the climate, and its diseases.

“To afford medical assistance, we were quickly summoned. We immediately attended; but in the interim, the advance of the disease had surpassed our rapidity. When we arrived, we found that the patient had been unable longer to endure confinement in bed, the cramp had extended upwards to the calves of his legs, they were also simultaneously experienced in both arms; so violent were the spasms, that he had rolled in torture upon the floor. At the time we entered, he was gathered into a corner of the apartment, and presented an appalling spectacle of internal agony: his person sparingly concealed in his night garment, bore, in its spasmodic contractions, a resemblance to the letter **S**: assisted by a couple of servants, and by pressing his bent extremities against the angles of the walls, he laboured, in the extreme exertion of voluntary force to subdue the involuntary actions of the rebellious

muscles. The expression of his face at that moment lives distinct in our recollections, and even now, though seen through the mist of receding years, 'tis painful to dwell upon. To convey to the reader a faint idea of the death struggle then maintained, we would liken the poor patient to a traveller, who falling unwarily on the tiger's lair, rallies every nerve to secure a temporary respite. His inevitable fate is briefly procrastinated by the convulsive grasp which holds the savage in momentary subjection. Such was the danger, such the desperation, stamped upon the countenance of our patient. His features were sharp and hollow; his teeth clenched in breathless agony; the blood had retracted from his cheeks and lips; his limbs were doubled resistlessly by the remorseless spasm. In a few minutes, a remission brought partial relief. In occasional snatches of expression, he gave us to understand that he was unable to answer those interrogatories we might think proper to propose with regard to the inward symptoms.

“Those symptoms were the usual concomitants of Spasmodic Cholera, in the intermediate stage of its violence. His stomach felt as if it contained a furnace; the thirst was insatiable; and so complete was the feeling of exhaustion, during the interval of mitigated suffering, that he felt unconscious of possessing the slightest control over the motions of any part of his physical structure. No hopes could be entertained. Every means, recorded by experience, were used to compass a favorable change. Respecting the final

issue, he was himself little, if at all, solicitous ; immediate suffering absorbed both sense and soul ; he prayed to be relieved from the agonies he endured, either by energetic treatment, or death. The spasms at length yielded to debility ; vomiting ceased to harass ; the pulse was no longer perceptible ; the surface became cold and clammy, the breath chill, eye glazed ; and in this state he lived several hours,—his mental faculties unimpaired to the last,—and then died. His hands and feet presented a corrugated appearance, as if they had been macerated in water for some days.

“ This case is a common specimen of the progress of the disease to a fatal termination. It included thirteen hours, from the first feeling of uneasiness till the patient breathed his last. Many, on the other hand, are carried off with astonishing rapidity ; instances are numerous of soldiers on march falling from their ranks and dying instantly, without uttering a previous complaint ; mechanics with their working implements in their hands, priests at their beads, and farming servants at their ploughs.”

M. Keraudren’s account of symptoms is very concise and accurate : “ Sudden and unwarned seizure, often after a repast, and during the night ; head-ache and pain in the stomach ; vomiting successively of alimentary, bilious, serous, and mucous matter ; repeated involuntary dejections of greyish or white colour, seldom yellow or black : tension of the epigastrium ; depression of the abdomen ; burning thirst ; clammy sweats ; pulse small, light, and concentrated ; anxiety,



cramp, supination, convulsions, trismus, tetanic rigidity; alteration of the countenance; coldness of the extremities and trunk; hiccough, syncope, voice feeble and hoarse, impeded respiration, and finally death.

“The duration of the spasmodic state appears to vary from a few minutes to even twelve hours. Before this period elapses, it may terminate in death by the sudden suspension of the respiratory or circulating functions, or in a return to health by the timely solution of the spasm. Protracted beyond twelve hours, three modes of death may occur; either by the process already described, or by the sinking, or collapse, consecutive on such dreadful excitement of the intestinal muscles; or lastly, by the supervention of gastro-intestinal inflammation, which usually makes an easy prey of the exhausted and debilitated patient.”

We shall subjoin another case, given by M. Kraudren, to shew that though the symptoms may be very severe, they are not necessarily fatal.

“Madame S— of lymphatic, nervous temperament, weakly constitution, and labouring under uterine disease, breakfasted as usual upon rice; soon after, she experienced tension of the epigastrium, followed by all the symptoms of the Cholera Morbus, commencing at 10 A.M.: a Bengalese practitioner soon saw her, and gave her brandy, with tincture of peppermint and lavender, at short intervals, but without benefit; at 11 P.M. she was seen by Mr. St. Yves, who found that she had had repeated vomiting, and twenty involuntary dejections; intense pain was experienced in the epigas-

trium, ardent thirst, sensation of burning in the stomach and intestines ; respiration interrupted, countenance hypocratic, pulse small, intermittent, and almost insensible ; cramps of the lower extremities, prostration of strength, immobility, and supination ; her extremities were cold, skin dry ; stools viscous and black ; a mixture of laudanum and camphor was administered, and repeated every quarter of an hour. The following morning, the pulse was increased in power, the heat of the skin re-established, she perspired freely, the evacuations were suspended ; the same mixture was continued at intervals of an hour ; in the evening, all was natural, she had passed one sufficiently consistent stool, but continued weak : madeira and water was now allowed, and she was entirely convalescent on the third day.”

It is thus seen how greatly various is the rapidity with which the disease runs its course ; here were the most urgent symptoms continuing above six and thirty hours before any mitigation appeared, and yet convalescence is established on the third day ; indeed in most cases of recovery, convalescence was extraordinarily rapid.

It has been said that it is not proved that the Cholera of Russia is the same disease, as we have been describing to have occurred in India ; but Dr. Russel, who had been familiar with the Cholera in India, on hearing Sir Wm. Crichton’s account of the symptoms, as described by the Russian physicians, declared it to be an exact account of Indian Cholera. The following

is Sir Wm. Crichton's account : " General uneasiness, violent head-ache and giddiness, great languor, oppression of the chest, pain at the pit of the stomach and sides ; weak pulse ; frequent vomiting, first of undigested food, then of a watery fluid mixed with phlegm ; frequent purging ; severe pains ; cessation, or very scanty secretion of urine ; excessive thirst ; cramps in the leg, beginning at the toes, and by degrees reaching the body ; voice feeble and hoarse, eyes dull and sunk in the head, the features changed, and like those of a corpse ; coldness, contraction, and blueish tinge of extremities, coldness over the whole body, the lips and tongue becoming blue, cold and clammy perspiration. The vomiting and purging soon exhaust the patient, the spasms become greater, attacking the most vital parts, the pulse ceases, the beating of the heart becomes scarcely sensible, and the patient, after suffering the most horrid martyrdom, dies quickly, having a few moments ease just before his end. The duration of this malady is generally from twenty-four to twenty-eight hours, but sometimes its course is still more rapid."

There is one symptom mentioned by a practitioner in India, which I think deserving notice, as it seemed to influence his practice, and the results were successful. " In every instance, he says, (alluding to fifteen cases he attended last November,) the premonitory disturbance consisted of *excessive pain confined to one spot, immediately beneath the edge of the last true rib at the right hypochondrium.*" We shall refer to

his mode of treatment presently, and give a ease illustrative of its success. He observes that other practitioners had concurred in noticing that every person afflicted, had invariably agreed, that a sense of cramp at the edge of the lowest true rib, and apparently deep seated, was the first sensation experienced.

From the above accounts it will be observed, how very different the severe and alarming attacks of the Indian Cholera are to the Bilious Cholera of this country, and which is so frequently prevalent at this season of the year. It is true its attacks are often very acute, and may last three or four days, but properly treated patients recover very rapidly. There is certainly vomiting, purging, pains of stomach, and griping pains of the intestines, but they are evidently caused by a redundant flow of bile, owing to the stimulus the liver receives from the heat of the weather, and the symptoms are mere efforts of nature to repel a redundant secretion, and which if not timely assisted produce rapid exhaustion: but by the dilution of the irritating fluid, by mucilaginous and farinaeous drinks, and the exhibition of slightly laxative medicines, combined with anodynes, fomentations, and frictions, the alarming symptoms are soon relieved, when restoratives and light tonics complete the cure. In the Cholera of this country, the evacuations from the stomach and intestines are always of bilious matter, whereas the spasmodic Cholera of India is always characterised by a total absence of bile in the intestines, the dejections being of a pale white, or watery fluid, as before mentioned.



The possibility of effecting a cure in Spasmodic Cholera greatly depends upon the time in which the patient is submitted to medical management ; should it be suffered to completely develope itself before advice is obtained, it will often baffle the most scientific and skilful practitioner, and prove rapidly fatal ; but if advice is sought, as doubtless it would be in this country, when first uneasiness and anxiety are felt, when symptoms are moderate, relief may be obtained, and recovery ensured. The signs of returning health may be recognized, by the re-appearance of bile in the evacuations : the secretions of urine and saliva, which are usually suspended during the severity of the attack, will be restored ; the breath and skin will recover their natural heat, in short, all the functions of the body will return to their natural salutary state.

From the evidence of many reports, it would appear that the favorableness or unfavorableness of the symptoms is chiefly to be gathered from the state of the pulse and skin, or directly in proportion to the diminution of temperature ; danger was more to be apprehended from diminished circulation and temperature, than from the vomiting, purging, and cramps, because in those cases wherein the skin retained its natural heat, or having been cold, resumed its heat, and the circulation was performed with some power, recovery was anticipated, and usually took place.

Such, then, is the account of the symptoms of the Spasmodic Cholera, as observed by gentlemen who paid the most earnest attention to the disease, both in

India and Russia: Let us now notice the information they have given us, as to the mode of treatment. In the case of Madame S— above related, which appears to have been very severe, relief was obtained by anodynes and anti-spasmodics; the lancet, or even leeches, were not called in aid: and the recovery was perfect. But it is not from the relation of individual cases, that a general rule of treatment can be laid down: it must be the object of the practitioner to endeavour to prevent the extinction of the living principle by measures apportioned to the magnitude of the occasion. In many cases, Opium appears to have effected the purpose of immediate preservation, while there have been indications for an opposite mode of treatment: In others where blood-letting was judiciously timed, recovery appears to have been certain, as we shall presently see.

As general rules, Mr. Kennedy's appear to be so judicious, that we cannot help, in the first place, transcribing them. "Blood-letting, and a large dose of calomel, should be immediately prescribed;"—that is, supposing a medical practitioner to see the patient immediately upon the attack;—"Constant friction with hot flannels, or bottles filled with hot water; brandy and water, hot, with laudanum, and other sedative antispasmodics, to be used at such intervals, as the urgency of the case may require. Should the patient have neglected to apply for advice until the disease has advanced considerably into the second stage, and cramps and spasms have supervened, blood-

letting will prove useless or perhaps injurious: the hot bath, frictions, fomentations, brandy, laudanum, and other anti-spasmodics must now be depended on. If the third or last stage of collapse or exhaustion is set in, discriminating judgment will be highly needed; for as debility is our only opponent, further to depress the vital powers by sedatives, must prove highly injurious, if not speedily fatal; and we must trust to stimulants, combined with sedatives only in such doses as to assist the stimulants; for were they to be combined in quantities suited to the treatment of the spasms, the catastrophe would be inevitable.”

It has been observed by others, that blood-letting appears to have been serviceable when had recourse to in time. Unfortunately, the time is often so very short in which the disease passes from one stage to another, that though blood-letting might have been salvation at ten, at twelve o'clock it might be death. Should the patient be seen at a period when the urgent symptoms are a sense of burning heat at the stomach, with oppression of the chest, great anxiety of countenance, and while the pulse retains its power, and vigour, without diminished heat of surface, undoubtedly free venesection would be of incalculable service; but it cannot be used indiscriminately. From the returns from one particular regiment, more cases appeared to have recovered, where bleeding was freely practised. The system adopted on board H. M. S. *Liffey*, at Madras, in 1823, was, the instant a man was seized, to plunge him into a hot bath, kept always ready, and

while immersed to open a vein; if he bled, there was hope, but frequently blood would not flow. The Liffey lost a great many men, several surviving the attack a very few hours. The Committee of Health at Warsaw state, that bleeding practised in time was attended with very great success.

In the commencement, calomel in  $\text{ʒi}$  doses, appears to have co-operated with blood-letting, in equalizing the circulation, and to have checked the vomiting, and in many cases it was often repeated. As soon as collapse took place, then the diffusible stimuli were had recourse to, ammonia, æther, brandy, and laudanum. In some cases  $\text{ʒi}$  of cayenne with hot brandy and water, was found to stay on the stomach, when every thing else was rejected. Opium has been largely used both with, and after, calomel, its use being guided by its effects. Some thought small doses of laudanum, combined with  $\text{ʒi}$  doses of magnesia have had considerable effect in checking vomiting: indeed Dr. Ainslie considered magnesia almost a specific. In addition to internal remedies, the hot bath, fomentations, frictions, and bottles of hot water were unremittingly used till the heat of the surface was restored. Where irritants were thought necessary, flannels wrung out of boiling water, and applied to any part, produced immediate vesication, and relief was often experienced from the application of mustard poultices.

Another practitioner alluded to above, as having invariably observed the disease characterised by its commencing with “excessive pain, or a sense of



cramp at the edge of the lowest true rib," found the immediate application of cupping glasses check the most urgent symptoms. But we promised to give a case he has related.

"A. B. ætat 20, complained on the evening of the 1st of November, of severe spasm, which she described as deep seated, affecting one spot immediately under the last rib of the right side. To obtain relief she had applied some stimulating liniment; but the spasm continued unabated in violence for twelve hours. At this period, the pain advanced to the abdominal muscles and lower extremities, accompanied with violent vomiting and purging, and a scalding sensation about the epigastrium. The countenance now became pale and anxious, pulse 60 and soft, tongue of a slaty colour, and the skin clammy. The matter thrown up from the stomach and duodenum, was in large quantities; in the first instance of the consistence of jelly, and of a light muddy colour, afterwards watery, and having a whitish appearance. The matter dejected was from the first, pale, watery, and presenting a peculiar odour. The constant retching and vomiting were followed by great thirst, and a burning sensation over the region of the stomach. The capillaries of the conjunctiva contained no red blood. The vital functions now became more and more depressed, but the mental faculties were not in any way affected. Hitherto there had been no appearance of any bilious secretion. I saw the patient an hour and a half after the vomiting, purging, and general spasms had com-

menced. I immediately applied ten cupping glasses to the right hypochondrium, and over the incisions a large hot bread poultice, and to my delight, and the patient's relief, the severe vomiting ceased. The usual stimulating liniments, and friction were at the same time applied to the extremities. The purging continued, but with this remarkable difference, that instead of the matter being pale and watery, it assumed the appearance of ink. The frequent introduction of emollient enemata eased the patient's sufferings at stool, and allayed the irritation of the intestinal canal; no urgent symptom now remained. In consequence of the patient being greatly exhausted, I ordered a mixture of sherry and water to be given every quarter of an hour. The temperature of body gradually, but very slowly, returned. A slight relapse of bilious purging occurring on the night of the 2nd, I gave ten grains of calomel, and two of opium, when no other bad symptom appeared, and the patient began to recover rapidly."

This gentleman adds, "in cases of severe purging it is advisable to give, in the first place, a full dose of calomel and opium, and when this is administered, let no time be lost in applying cupping glasses, and after these a large poultice, but where the purging is not very violent, the first indication is to remove the stricture, and allow the accumulated bile to flow into the intestines."

In M. Keraudren's account, we find him objecting to the use of purgatives and emetics, which he stigmatizes as being highly pernicious; he rejects calomel from

his list of remedies, conceiving that the rapidity of the disease does not permit its specific effects to be exerted, and as a purgative he thinks its employment contraindicated. He also warmly condemns blood-letting, at least as far as the first stage of the disease is concerned, wherein he thinks sedative remedies far more appropriate, as allayers of spasmodic irritation. In the second stage, however, if symptoms of gastrointestinal inflammation are evinced, if the epigastrium be acutely tender, while external heat begins to be established, he then deems the application of leeches and cupping glasses highly advantageous. M. K.'s plan of treatment may be, in a few words, described as external and internal; under the former head is comprised, first, the means of restoring heat, and promoting the cutaneous circulation, such as large cataplasms, the warm bath, frictions with dry linen cloths; secondly, of inducing a contra-stimulant action, viz. sinapisms, the actual cautery, the application of boiling water, or of the mineral acids; cloths wrung out of boiling water he has found very useful, if applied to the soles of the feet, in the spasmodic stage of the affection. His internal remedy, to resolve spasm, in the first instance, is a mixture of laudanum and sulphuric æther, in quantity proportioned to the vehemence of the attack.

These methods of treatment appear to have been successfully practised by the gentlemen who have related them; and to them might be added many others, but as these sheets were going to press, the public

prints have announced a ease as having occurred at the Westminster Hospital, undoubtedly the disease in question, which was treated so judiciously by Dr. Hamilton Roe, that it would be unpardonable to omit it, especially as we conceive it will supersede the necessity of adding much more as to the treatment of the Cholera, should it extend further.

July 6, 1831.—Patrick Geary, ætat 50, has supported himself during the last two months as a labourer, but for the four preeeding years was employed as a worsted weaver in Leeds. The scantiness of his earnings since he came to London, has obliged him to live on bread and tea, with an occasional meal of herrings and potatoes. Yesterday morning he was perfectly well; but whilst at work, he felt swollen about the navel, yet suffered no pain. On his return home, his thirst became very great; he drank a pint of table beer, which increased the uneasy sensations in his bowels, and almost immediately afterwards the contents of his bowels were freely and frequently evacuated. He slept from eleven till between two and three o'clock, when he was seized with such violent eramps of the feet, legs, and thighs, hands and arms, that he was unable to rise from his bed to relieve the calls of nature. About the same time he began to vomit a fluid, which he says was bitter and sour; he was again violently purged, and felt slight tenderness and pain of the abdomen. He continued in this state, with occasional intermissions of his symptoms, up to the present time. He has not been drinking spirits, nor eating fruits, nor



has he had any illness during the last fifteen years. He was seen by a medical practitioner, by whom he was sent into the hospital.

11 A. M. His countenance is anxious, and indicates great prostration of strength; skin cold and clammy; pulse 140, scarcely perceptible; respiration hurried; great thirst, some delirium; the slightest movement of the lower extremities occasions cramps. A draught containing half a dram of laudanum, and a dram of æther, was given by Mr. Walsh; it was rejected immediately; a second was then administered, which remained in the stomach. Between one and two o'clock Dr. Roe saw him for the first time; his countenance was depressed and anxious, eyes suffused, but not sunk; surface of the body and tongue cold; extremities bathed with cold perspiration; pulse scarcely to be felt; respiration hurried; complains of a sense of scalding in the region of the stomach, but has no pain, and very slight tenderness of the abdomen. When a spasm comes on, he writhes about in the bed. Tongue furred. His bowels have not been moved since his admission; he has the appearance of a man in the last stage of inflammation of the bowels.

The patient's danger manifestly arose from the impression made upon the nervous system, which was indicated by the expression of his countenance, the feebleness of his pulse, and the coldness of his skin. The object therefore was to counteract that impression, and for this purpose, he was ordered a warm bath immediately, with warm mucilaginous drinks, and a

draught containing a dram of æther and a dram of laudanum, every hour, or oftener, if he seemed to require it, till the pulse rallied.

Cloths wet with the chloruret of lime, were directed to be hung round his bed.

7 P. M. Skin became warm after the bath, and he perspired freely; no drowsiness produced by the medicine; has vomited twice since the last report; the fluid ejected was like mutton broth, with dark-coloured mucus in it; countenance less anxious; complains of pain in the head, which is, however, quite cool to the touch; cramp still continues, but not so violent; pulse 100; feeble; tongue not so dry; thirst less; skin cool; he appears to require a stronger stimulus: one dram and half of laudanum, and one dram of aromatic spirit of ammonia to be taken every hour.

10 P. M. No vomiting since the last report; cramp less violent; countenance less anxious; bowels not purged; skin warm; pulse 100, with more strength; no pain, except in the head: Take laudanum one ounce; aromatic spirit of ammonia, one ounce; water, eight ounces: one ounce of this mixture to be taken every two hours.

7th July, 6 A. M. Slept soundly at times during the night, but the vomiting recurs every four or five hours; cramps have been more frequent, but not so violent; occasional hiccough; bowels not yet purged; no tenderness of abdomen; tongue more furred; more thirst; countenance improved; respiration hurried; pulse 108, with more strength; the last two doses of

medicine rejected : Repeat the draught, with the addition of spirit of nitrous æther.

4 P. M. At one o'clock the medicine was intermitted, because the skin was warm ; the pulse was beginning to be sharp ; tongue more furred ; at three, a purgative injection was administered ; his bowels have not acted ; eyes much suffused ; countenance less anxious ; no vomiting since last report : respiration natural, occasional hiccough ; pulse 110, rather sharp ; tongue more furred, and skin hot : Take prussic acid, (Scheele's strength) one minim ; sulphate of magnesia, one dram ; water, one ounce : this draught to be taken immediately, and repeated every four hours till the bowels are open.

6 P. M. The pulse became so extremely feeble after the draught, that it was discontinued ; thirst not so great ; hiccough increased ; tongue still furred ; bowels have not acted ; no vomiting, no evacuation per urethram ; ten ounces of high coloured water drawn off by catheter.

9 P. M. Pulse fuller, 106 ; no vomiting ; hiccough very troublesome ; bowels not moved ; skin warm and moist : Take tartarised soda, two drams ; sulphate of magnesia, one ounce ; water, eight ounces ; mix : injection to be repeated.

July 8th, 8 A. M. The hiccough was relieved immediately by the medicine ; bowels not open ; tenderness of the abdomen ; tongue cleaner ; pulse 100, not so full ; respiration natural ; has had cramp once in the thigh ; thirst continues ; slept very well : Take

eastor oil and spirit of turpentine, of each half an ounce, gruel one pint, mix : this enema to be injected immediately:

1 P. M. Bowels moved copiously half an hour ago ; evacuation grey or whey coloured, mixed with injection ; pulse 100, soft ; tongue cleaner ; thirst continues ; free evacuation per urethram.

On the 10th, his bowels were opened three times, and bile appeared in the evacuations. He has improved gradually since in every respect, and is now convalescent.

It would be doing great injustice to Mr. Walsh, the physician's clinical assistant, to omit Dr. Roe's handsome testimony, " that it was to Mr. W's skill and indefatigable attention, that the poor man owed his recovery."

In closing the account of the Treatment of Cholera, we must not omit to mention, a suggestion of Dr. Ainslie's, which he transmitted to the Russian government, and has since publicly recommended in a letter to Sir Anthony Carlisle, viz. the inhalation of a portion of oxygen gas ; (equal parts of oxygen, and atmospheric air ;) as nothing, he observes, more immediately or more powerfully resuscitates, warms, and re-animates the human frame. In a disease which runs its course so rapidly, and in which sudden exhaustion becomes so alarming, it is a suggestion we consider well worth the trial ; not, of course, to be solely depended upon, but probably as a powerful auxiliary in supporting the vital principle, while other means are being used.



With respect to the much disputed question, whether Cholera is contagious or not, though much may be advanced on both sides of the question, from the most respectable sources, it is not our intention to enter into the controversy; believing it wise in Government to have adopted the usual precautionary measures, as though it *was* a settled point, that the disease is to be communicated by contagion. We will merely insert a minute of a special committee of the Royal College of Physicians, made on Wednesday, June 15th; after a long discussion they came to the unanimous resolution of stating it as their opinion, “that Cholera Morbus may be communicated by infected persons to those in health, but that no information which has, as yet, reached the committee, justified the supposition that it is communicable by merchandise; but as a measure of precaution they approve the establishment of quarantine.”

And we shall just add, (Extract of a letter from Dantzic, July 1st,) “That the Cholera with us is not infectious, is sufficiently proved; but, as in the case of fevers, only attacks such persons as from their careless way of living, have become subject to the disease. Notwithstanding this, every means is used as if it was really infectious.”

To which, in conclusion, on this subject, it may be observed that the Bengal and Madras Boards of Health both unreservedly declare their conviction of the non-contagious nature of the disease, and their reports are founded on the testimony of a great number of medical officers.

Without further allusion to the case of Patrick Geary, we must say it is not impossible, or indeed improbable, that Cholera may find its way into this country; but from causes above-mentioned, think it will not be of sufficient intensity to produce the alarming results other countries have witnessed. It may be enquired whether some precautions and preventives may not with propriety be had recourse to, and of what nature: an extract from Mr. Annesley's work on Indian diseases, will give the best reply, and furnish the most appropriate close to our work.

“All that I can say under this head may be comprehended under the general injunction of avoiding the prejudices and exciting causes of the disease. Whatever tends directly or indirectly to debilitate or fatigue the system, whatever lowers its vital energy, as excess of every description, disposes to the operation of the efficient cause of the malady. On the other hand, I am fully persuaded that, whatever tends to preserve this energy seems to render the system impregnable to its operations.

“Exposure to cold, to chills, and the night dews, and to wet and moisture, ought carefully to be avoided; and if at any time these exposures are inevitable, the system should be fortified against their effects; but the mode of fortifying the system, requires consideration. This should not be attempted, unless better means are not within resort, by wines or spirits; these generally leave the system, as soon as their stimulating

effects are passed off, more exposed than before to the invasion of disease. Permanent tonics, however, and those more especially which determine to the surface of the body, at the same time that they improve the tone of the digestive viscera, and promote the regular functions of the bowels, and biliary organs, may be resorted to on such occasions. For this purpose, infusion or decoction of bark or calumba, may be taken with the spirit of mindererus, or any warm stomachic ; or the powdered bark (or quinine) may be administered combined with the spicy aromatics. The same medicinal means may also be attended to, whenever the disease prevails at the place where the individual resides, and should be put in practice when he retires to sleep, and as soon as he rises in the morning, before he leaves his apartment. He should also avoid sleeping in low, and ill-ventilated apartments, and be equally distrustful of sleeping near, or of ever passing through, in the night time, marshy or swampy districts. If, however, these latter precautions, cannot be taken, the medicinal means already suggested should be adopted.

“ The bowels should be attended to, and their functions regulated ; but in no case, should this be attempted by debilitating purgatives or by salts. The warmer stimulating laxatives, and these combined with tonics, may be adopted with advantage, as occasion may require. The surface of the body should be kept in a warm perspirable state, but excessive perspiration should be avoided. The diet should be regular, mode-

rate, and easy of digestion, while low living ought to be shunned, its opposite should never be indulged in. The stomach ought to have no more to do, than what it can perfectly accomplish without fatigue to itself, and to the promotion of its own energies. It must never be roused to a state of false energy by the means of palpable excitants, or weakened by disturbing it with too copious draughts of weak diluents.

“ The state of mind ought to be regulated in such a manner as not to be excited, much above, nor lowered beneath, its usual tenor. The imagination should not, for a moment, be allowed to dwell upon the painful consideration which the disease is calculated to bring before the mind ; and least of all ought the dread of it to be encouraged. Those who dread not diseases, and yet possess sufficient prudence to avoid unnecessary exposure to their predisposing and exciting causes, may generally be considered as subjected to comparatively little risk from them. This I am persuaded is particularly the case as respects epidemic Cholera ; and I wish to impress it upon the minds of those whom the observation concerns.”

We must add one short extract from a letter to the Editor of the Times, by Dr. James Johnson.

“ Prevention is, however, better than cure ; and let those who dread the event of this terrible calamity, adopt the only safe and sure preservatives,—temperance of body and equanimity of mind. The fear of Cholera is almost the only predisposing cause in this country,

which could give strength to the enemy, or prevent him from soon expiring by the natural resistance of the climate. On this account Quarantine, will act beneficially, even if the Cholera be non-contagious, as it most probably is, under ordinary circumstances. But whether it be contagious or infectious, sporadic or epidemic, I venture to prophesy that it will never prove formidable in an English climate."

FINIS.



